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ABSTRACT

The most urgent order of business in the national scene is to complete the development of a series of new performance tests for school bus bodies and chassis to establish a benchmark for safe construction that can be verified by independent testing agencies. Such performance tests should incorporate the new Federal Joint Strength Efficiency proposals and the performance criteria under development by the National SBMI Task Force Committee on school bus standards. Uniform adoption of a national school bus standard by the 50 States would serve the interest of the total pupil transportation effort, result in faster delivery and cost savings, and enhance the safety image of school transportation in the minds of the American public. Short- and long-range tips for buying school bus chassis today are included. (Author/MLF)

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TOPIC: What's Happening on the School Bus Performance Front?

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FOR RELEASE UPON DELIVERY

School districts today are confronted with increasingly complex problems of transporting almost half of the nation's children to and from school each day. Problems such as increasing driver's salaries, fuel costs and availability, skyrocketing costs and delays in delivery of new buses, locating qualified personnel, tightening federal and state regulations and public sensitivity to safety, and school budgeting functions all compound the manyfaceted problems of this important supportive service to education.

SCHOOL BUS STANDARDS

One of the vital problems confronting the yellow school bus industry today is the lack of uniform standards for school buses throughout the nation. State governments by federal and state constitutions are responsible for education within each of the 50 boundaries.

School bus construction standards and operating regulations are generally designed by the state agency or department colocated with that authority. In most states, the authority rests with departments of education although in recent years, the responsibility for standards is being transferred to state departments of transportation. In some cases, those responsible for standards are political appointees and their tenure in office is dependent upon the political climate of the state.

The proculmation of school bus construction standards in the past has generally followed a line of development of evaluating all 2-ton class chassis components available from the five major truck manufacturers and setting a standard which eliminates the components which have failed to provide satisfactory performance in actual field experience.

States who attempt to write standards to achieve a better level of chassis performance or better school bus body construction face the possibility of not being able to purchase buses that have been customized beyond current production feasibility or availability.

FEDERAL STANDARDS

The National Highway Safety Act of 1966 empowered the Federal Department of Transportation to promulgate standards that served the American public in the area of improved vehicular safety. All manufacturers of buses and buses, as well as automobiles, are under this authority and must comply with those regulations.

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Unfortunately, the structure of the Federal D.O.T. subjects the agency to pressures from the press, from Congress and vested interest groups who are not knowledgeable in the area of standards and who are reacting or over-reacting to emotional response rather than facts (i.e. school bus/train collision which generates a million ft. lbs. of force and destroy the bus structure. Such accidents are almost always chargeable to the school bus driver, yet outside the language in standard #17, very little emphasis is given the importance of pre-employment and in-service school bus driver training.

THE CHASSIS

Over 90% of the moving wearing components of a school bus is in the chassis. Present day school bus chassid are modified truck chassis with extended frame rails to accomodate the larger school bus body. The sophisticated school bus chassis standard to include such items as power steering, full air brakes, heavy duty (9000 lbs) front axles and (18,500 lbs) rear axles and automatic transmission.

Federal standards #121 (air brakes) effective September 1, 1974 and #105A (Hydraulic brakes) effective September 1, 1975 require a higher brake performancethan ever existed before. Cost estimates, still-vague, are from $900 to $2000 higher. Federal emission standards mandated upon gasoline engines greatly reduce efficiency and power output. Average mileage for school buses for 1973 and 1974 buses -- 3 miles per gallon.

An obvious answer is the intermediate small diesel engine. Unfortunately, the great demand by the truck industry plus the shortage of engine blocks will delay delivery from 12-14 months.

The number of block casting plants has been greatly reduced due to the new ecological standards resulting in a greatly reduced manufacturing capacity in a period of increased demand. School bus chassis production has also been reduced due to labor contracts. School bus chassis are longer than most other truck chassis, consequently, labor contracts based upon piece work restrict the number of bus units the union will allow in the production line.

TIPS FOR BUYING SCHOOL BUS CHASSIS TODAY

SHORT RANGE

(1) Do not bid special equipment items above current minimum standards
(2) Ask for date of delivery (to body plants)
(3) Avoid writing district base specs

LONG RANGE

(1) Ask for bids on special equipment items such as diesel engines, automatic transmission.
(2) Anticipate delay in delivery plan to incorporate units in fleet at least one year in advance.

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SCHOOL BUS BODY

Strength of construction of school bus bodies, seats, driver compartments, etc. have been under severe analysis for several years. Terms such as "cookie Cutters" and "cracker boxes" have been used synonymously with school bus.

The number and types of panels, the method used to lap the panels, the number or lack of fasteners have all been expanded as evidence of unsafe construction in school bus bodies. Ohio's analysis of over 20,000 school bus accidents since 1951 reveal that the school bus chassis absorbs over 80% of the energy upon impact. The floor of the school bus is well above the impact line fo the automobile; consequently, automobiles tend to submarine the school bus, collapse the body skirts on the sides or go under the rear end of the bus.

NEW NATIONAL STANDARDS ARE NEEDED

The most urgent order of business in the national scene is to complete the development of a series of new performance tests for school bus bodies and chassis to truly establish a benchmark for safe construction that can be verified by independent testing agencies. Performance tests which incorporate the new federal Federal Joint Structural Efficiency proposals plus the performance criteria under development by the National SAMI Task Force Committee on school bus standards.

Uniform adoption of a national school bus standard by the 50 state agencies is long overdue. This action would serve the interest of the total world transportation effort, result in quicker delivery, cost savings and the manufacturer's and users level and above all vastly enhance the safety image of school transportation in the minds of the American public.

Our children would receive the highest benefit.

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